



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/713,479	11/15/2000	William Romine	QSOFT.050A	3574

20995 7590 08/11/2003

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER

LE, DEBBIE M

ART UNIT	PAPER NUMBER
----------	--------------

2177

DATE MAILED: 08/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/713,479

Applicant(s)

ROMINE ET AL.

Examiner

DEBBIE M LE

Art Unit

2177

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11,15,17,19-26,30,32-41 and 46-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11,15,17,19-26,30,32-41 and 46-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 May 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☒ Interview Summary (PTO-413) Paper No(s). 6.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

The corrected or substitute drawings were received on 5/27/03. These drawings are approved by the examiner.

Response to Amendment

Applicants' argument filed on 5/27/03. Claims 12-14, 16, 18, 27-29, 31, 42-45 are canceled. Claims 46-49 are newly added. Claims 1-11, 15, 17, 19-26, 30, 32-41, 46-49 are presented for examinations.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claim 17 is rejected under 35 U.S.C. 102(e) as being anticipated by Sockut et al. (U.S. Patent 6,026,412).

Sockut teaches independent claim 17 by the following:

“inserting a first marker into a log file containing records of modification operations against an original table, wherein the insertion occurs when data of the original table starts to be copied to a reorganized table” at col. 7 lines 59-62. The definition of an RBA is taught at col. 1 line 64 to col. 2 line 5.

“inserting a second marker into the log file when the data of the original table is finished being copied to the reorganized table” at col. 7 line 63 to col. 8 line 16. END__RECENT is the second marker that is added to the log after step 504. At col. 7 lines 63-65, Sockut teaches that step 504 consists of the copying of the original table to the reorganized table.

“inserting a third marker into the log file when select data modification operations are blocked from executing against the original table” at col. 8 lines 57-61. Select data modifications are blocked while read-only access continues to be available.

“collecting the records of the modification operations from the log file occurring after the first marker and up until the third marker” at col. 13 lines 3-6. The log is read from BEGIN__RECENT to END__RECENT-1, the two markers which define the transactions that are needed to synchronize the new table.

"applying the modification operations of the collected records to the reorganized file after determining that the second marker has been inserted" at col. 13 lines 9-10. The log entries are applied to the new data area in order to sync the new table with the old one.

"using a table other than the original table and the reorganized table to insert at least one of the first, second, and third markers" (col. 7 lines 66-67, col. 8, lines 1-2, 5-7, 24-25).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sockut et al. (U.S. Patent 6,026,412) in view of Teng et al. (U.S. Patent 6,460,048).

As per claim 48, Sockut does teach wherein a first thread of execution controls the insertion of the first, second, and third markers. Sockut does not teach while a second thread of execution controls the collection of the records of the modification operations and the application of the modification operations to data of the reorganized file. However, Teng teaches a second thread of execution controls the selection of the records of the modification operations to data of the reorganized file (col. 2, lines 14-30).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Sockut with Teng to implement a second thread to data of the reorganized file because it would made the reorganized file reflect recent update activity before it allows users access to the reorganized file.

Claims 1-2, 4, 8-11, 19, 21, 22, 24-25, 32, 34, 35, 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pereira et al. (U.S. Patent 6,122,640) in view of Teng et al. (U.S. Patent 6,460,048).

Pereira teaches independent claim 1 by the following:

reorganizing data of an original table by copying the data to a reorganized table (col. 3 lines 60-63).

during the copying, allowing modifications to the data of the original table while collecting records of the modifications (col. 4 lines 23-28);

when the copying completes, applying the modifications from the collected records against the reorganized table (col. 4 lines 23-28);

applying a first trigger lock to the original table (col. 3 line 65 to col. 4 line 4), the first trigger lock blocking select data modification operations against the original table (col. 4 lines 22-25) while allowing other operations against the original table (col. 3 lines 47-55);

applying any remaining modifications from the collected records against the reorganized table (col. 4 lines 26-28);

substituting the reorganized table for the original table (col. 2 lines 24-26, lines 65-67).

Pereira does not explicitly teach applying a second trigger lock to the reorganized table, the second trigger lock blocking select data modification operations against the reorganized table while allowing other operation against the reorganized table, removing the second trigger lock. However Teng et al. does teach the locking of the reorganization table (col. 2 lines 19-24), removing the second trigger lock (col. 2 lines 17-30. The SWITCH). It would have been obvious to one ordinarily skilled in the art at the time of the invention to lock the table in order to ensure that the table will consist of correct information and will be properly switched with the original source table. The use of the lock to block particular access to the reorganization table simply reinforces the idea that those accesses are denied from the reorganization table.

Pereira teaches dependent claim 2 by the following:

wherein the other operations allowed by at least one of the first and second trigger locks comprises one or more structural modification operations (col. 4 lines 23-28).

Pereira teaches dependent claim 4 by the following:

during the application of the modifications from the collected records against the reorganized table, allowing additional modifications to the data of the original table while collecting additional records of the additional modifications (col. 3 lines 59-65).

when the modifications and at least portions of the additional modifications have been applied against the reorganized table, applying the first trigger lock to the original table (col. 4 lines 1-4).

wherein the step of applying any remaining modifications includes applying any remaining modifications or additional modifications against the reorganized table (col. 4 lines 23-28).

Teng teaches dependent claim 8 by the following:

"wherein the original table includes a table name, and wherein the step of substituting the reorganized table for the original table further comprises renaming the original table another name and naming the reorganized table the table name" at col. 2 lines 22-26.

The old copy, or the original table, is renamed to a temporary name. The shadow copy, or the reorganized table, is then renamed to the name of the original table.

Pereira teaches dependent claim 9 by the following:

"further comprising archiving the original table" at col. 12 lines 63-65. The source or original table is renamed so that it can be archived. The original table is archived when it is saved for backup services.

Pereira teaches dependent claim 10 by the following:

"wherein the copying of the data of the original table to the reorganized table further comprises creating an original synchronization point, after which the records of modifications are collected" at col. 8 lines 25-39. The original table is locked and the new or reorganized table is created. The checkpoint is created to give a timeframe in which updates were not made to the original table. The modifications after the checkpoint are logged so that they can later be used to update the reorganized table.

Teng teaches dependent claim 11 by the following:

"wherein before the application of the second trigger lock, the original table and the reorganized table are in synchronization with one another" at col. 2 lines 13-24. The reorganized table is a copy of the original table. The reorganization table is then updated with the logged transactions. Before the original table can be switched with the reorganization table, the reorganization table is locked thus delaying access to the table.

Pereira teaches dependent claim 19 by the following:

"reorganizing an original object by copying data from the original object to a reorganized object" at col. 3 lines 60-63. A reorganized copy of the original, or source, table is created before the SCN point.

"applying a trigger lock to the original object, the trigger lock blocking data modification operations from modifying the original object while allowing other operations to access the original object" at col. 4 lines 22-25. The trigger lock does not allow transaction or block modifications on the original object. At col. 3 lines 47-55, Pereira teaches that the database tables remain online allowing full availability during the reorganization process.

Pereira teaches dependent claim 21 by the following:

"wherein the other operations include one or more structural modification operations" at col. 4 lines 23-28. The block modifications are structural modifications. These block modifications are logged and then the reorganization table is updated with the block modifications.

Pereira teaches independent claim 22 by the following:

Art Unit: 2177

"reorganizing an original object by copying data from the original object to a reorganized object" at col. 3 lines 60-63. A reorganized copy of the original, or source, table is created before the SCN point.

Pereira does not explicitly teach applying a second trigger lock to the reorganized table, the second trigger lock blocking select data modification operations against the reorganized table while allowing other operation against the reorganized table, removing the second trigger lock. However Teng et al. does teach the locking of the reorganization table (col. 2 lines 19-24), removing the second trigger lock (col. 2 lines 17-30. The SWITCH). It would have been obvious to one ordinarily skilled in the art at the time of the invention to lock the table in order to ensure that the table will consist of correct information and will be properly switched with the original source table. The use of the lock to block particular access to the reorganization table simply reinforces the idea that those accesses are denied from the reorganization table.

Pereira teaches dependent claims 24 and 37 by the following:

"wherein the other operations include one or more structural modification operations" at col. 8 lines 35-49. The reorganized table (the new table) is created after the original table is locked. The reorganized table receives all of the structural modifications, data definition language operations, which occur to the original table. The structural and data definition language operations are allowed while the tables are locked from other operations.

Pereira teaches dependent claim 25 and 38 by the following:

"wherein the one or more structural modification operations include consecutive data definition language operations" at col. 8 lines 35-49. The reorganized table (the new table) is created after the original table is locked. The reorganized table receives all of the structural modifications, data definition language operations, which occur to the original table. The structural and data definition language operations are allowed while the tables are locked from other operations.

Pereira teaches dependent claim 32 by the following:

"the reorganization application comprising an execution thread which reorganizes an original object by copying data of the original object to a reorganized object" at col. 10 lines 33-48. The load thread copies the original table to the reorganized table.

"which applies a trigger lock to the original object, wherein the trigger lock blocks data modification operations from modifying the original object while allowing other operations to access the original object" at col. 10 lines 49-54. The table is made available to the users for OLTP activity. At col. 8 lines 29-34, Pereira teaches the locking of the source table to determine a reference point to update the reorganized table. The locking of the table is also a part of the system that uses threads. Pereira teaches a locking of the table with the threads at col. 10 lines 66-67.

Pereira teaches dependent claim 34 by the following:

"wherein the other operations include one or more structural modification operations" at col. 8 lines 35-49. The reorganized table (the new table) is created after the original table is locked. The reorganized table receives all of the structural modifications, data

Art Unit: 2177

definition language operations, which occur to the original table. The structural and data definition language operations are allowed while the tables are locked from other operations.

Pereira and Teng teaches independent claim 35 by the following:

"the reorganization application comprising an execution thread which reorganizes an original

object by copying data of the original object to a reorganized object" at Pereira col. 10 lines 33-48. The load thread copies the original table to the reorganized table.

"... and which applies a trigger lock to the reorganized object, wherein the trigger lock blocks data modification operations from modifying the reorganized object while allowing other operations to access the reorganized object" at col. 2 lines 19-26.

Access requests are delayed but the reorganized table is renamed to the source table.

The renaming of the reorganized table to the source table is one operation that is allowed. Users will not be able to operate on the reorganized table because it has not yet been made available to them.

Claims 15, 46-47 are rejected under 35 U.S.C. 103 (a) as being anticipated by Bannon et al. (U.S. Patent 5,297,279) in view of Pereira (US Patent 6,122,640).

Bannon teaches independent claim 15 by the following:

"one or more actions which block the execution of select data modification operations against an object by returning an error message in response to the select data modification operations" at col. 17 lines 51-57. A write lock must be held in order for a

new version of the object to be created in the database. If the lock is not held, an error is returned.

"one or more statements which, when attempted against the object, cause the one or more actions to be executed" at col. 17 lines 51-57. The error is returned after the statement is attempted against the object. The returning of the error is the executed action.

Bannon does not teach structural modifications against the object. Pereira does teach the use of locks to block access of data at col. 4 lines 1-4. Pereira further teaches the allowance of structural modifications or data definition languages modifications at col. 8 lines 36-49. It would have been obvious to one ordinarily skilled in the art at the time of the invention to allow structural modifications. By allowing structural modifications, the database management system is able to allow as many transactions as possible on the database. Structural modifications are allowed to take place while keeping the database online and accessible.

Bannon teaches dependent claim 46 by the following:

"wherein the one or more statements include at least one of insert, update, and delete" at col. 17 lines 51-57 and col. 23 lines 55-58. that the present invention relates to a database management system. The locks are implemented in the system. As stated above, the locks allow for a particular type of access. If that access is not granted, the lock will return an error. Because the locks are capable of performing such tasks, the locks are formed from a procedure.

As per claim 47, Bannon teaches the lock is formed from a procedure implemented within a database management system (col. 7, lines 27-40, col. 17, lines 50-67).

Claims 3, 20, 23, 30, 33, 36, 40, 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pereira et al. (U.S. Patent 6,122,640) in view of Teng et al. (U.S. Patent 6,460,048) as applied to claims above, and further in view of Sockut et al. (U.S. Patent 6,026,412).

As per claim 3,

Pereira teaches that the source table is locked and read in order to determine the contents of the table that need to be copied at col. 7 lines 61-67. Pereira does not teach that the source table is read only. Teng teaches the managing the names of the source and reorganized tables as taught at col. 1 lines 9-12. Teng teaches more about the reorganization through other patents as taught at col. 1 lines 33-45. Sockut teaches read-only access (col. 8 lines 2-4 and col. 8 lines 60-61). It would have been obvious to one ordinarily skilled in the art at the time of the invention to have the locks allow read only access as taught by Sockut at col. 8 lines 57-61. The locks have forced all modifications to be placed in the transaction log as taught at Sockut col. 4 lines 5-10. The locks cause the data to be written to a log to be later applied as taught at col. 4 lines 9-10.

Sockut teaches dependent claim 20 by the following:

"wherein the other operations include one or more read-only operations" at col. 8 lines 60-61. The other operations allowed on the original table are read only.

Teng and Sockut teach dependent claim 23 and 36 by the following:

"wherein the other operations include one or more read-only operations" at Teng col. 2 lines 49-51. Teng teaches that the reorganized object, or shadow object, is capable of being accessed. Sockut teaches the read-only access at col. 8 lines 60-61. Because the shadow object actually becomes the origin table, the same type of access is allowed to both tables.

the read-only access at col. 8 lines 60-61 as taught above.

Claim 30 is rejected by the same rationale as state in independent claim 1 argument. Furthermore, Pereira and Teng do not teach "wherein the reorganization application is further configured to apply a trigger lock to the table, thereby blocking select data modification language operations while allowing at least read-only operations". However, Sockut teaches at col. 8 lines 57-61. Some of the operations are quiesced while the reader is still allowed read-only access. It would have been obvious to one ordinarily skilled in the art at the time of the invention to have the locks allow read only access as taught by Sockut at col. 8 lines 57-61. The locks have forced all modifications to be placed in the transaction log as taught at Sockut col. 4 lines 5-10. The locks cause the data to be written to a log to be later applied as taught at col. 4 lines 9-10.

Sockut teaches dependent claim 33 by the following:

"wherein the other operations include one or more read-only operations" at col. 8 lines 57-61. Some of the operations are quiesced while the reader is still allowed read-only access.

Claim 40 is rejected by the same rationale as state in independent claim 30 argument.

As per claim 49, Teng teaches wherein the reorganization application is further configured to apply a trigger lock to the reorganized table, thereby blocking select data modification language operations (col. 2, lines 13-30).. Pereira teaches allowing one of one or more read-only operations and one or more data definition language operations Pereira further teaches the allowance of structural modifications or data definition languages modifications (col. 8 lines 36-49).

Claims 26, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pereira et al. (U.S. Patent 6,122,640) in view of Teng et al. (U.S. Patent 6,460,048) as applied to claims above, and further in view of Lakhamraju et al. (U.S. Patent 6,343,296).

As per claim 26, Pereira, Teng, and Lakhamraju teach "the reorganization application comprising an execution thread which reorganizes an original object by copying data of the original object to a reorganized object" at Pereira col. 10 lines 33-48. The load thread copies the original table to the reorganized table.

"wherein, when the original object included one or more relational constraints" at Lakhamraju col. 4 lines 48-55. Lakhamraju teaches the searching of the parents and relationships at col. 5 lines 38-59.

"the execution thread applies at least one of the one or more relational constraints to the reorganized object" at col. 4 lines 48-55. Lakhamraju teaches the application of relational constraints.

"wherein the execution thread allows at least read-only access to the reorganized object while applying the at least one or more relational constraints" at Teng col. 2 lines 49-51. Teng teaches that the reorganized table is capable of being accessed. Teng teaches that the reorganized object, or shadow object, is capable of being accessed. Because the shadow object actually becomes the origin table, the same type of access is allowed to both tables. Lakhamraju teaches the application of relational constraints at col. 4 lines 48-55. It would have been obvious to one ordinarily skilled in the art at the time of the invention to maintain the references within the database. Because the reorganized table is switched with the table, the reorganized table should be a current copy of the original table. The relationship constraints must be applied to the reorganized table in order to ensure the integrity of the system. If the reorganized table does not have the relationship constraints, the reorganized table is not a substitute of the original source table. The relationship constraints must be maintained in the copy of the latest version.

Claims 39 is rejected by the same rationale as state in independent claim 26 argument.

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pereira et al. (U.S. Patent 6,122,640) in view of Teng et al. (U.S. Patent 6,460,048) as applied to claims above, and further in view of Lakhamraju et al. (U.S. Patent 6,343,296) and Suver (U.S. Patent 6,016,497).

Teng teaches that a database has a database descriptor (DBD) that stores the relationships at col. 5 lines 61-64. At col. 6 line 62 to col. 7 line 7, Teng teaches that descriptor file is updated so that the shadow copy, or the reorganized table, is switched with the original table. Because the tables are switched, it is assumed that the relationship constraints are applied. Lakhamraju further teaches that the integrity is maintained for related objects in a database at col. 4 lines 48-55. Lakhamraju teaches the searching of the parents and relationships at col. 5 lines 38-59. It would have been obvious to one ordinarily skilled in the art at the time of the invention to maintain the references within the database. Because the reorganized table is switched with the table, the reorganized table should be a current copy of the original table. The relationship constraints must be applied to the reorganized table in order to ensure the integrity of the system. If the reorganized table does not have the relationship constraints, the reorganized table is not a substitute of the original source table. The relationship constraints must be maintained in the copy of the latest version.

Lakhamraju teaches the references between objects. He does not teach that these objects are stored in a table. Suver teaches the storage of objects in a table at col. 8 lines 46-49. The objects are decomposed into multiple tables. Suver later talks of

Art Unit: 2177

linking objects across several tables at col. 12 lines 19-23. It would have been obvious to one ordinarily skilled in the art at the time of the invention to store the objects in a table. By storing objects in a table, the user can gain the benefits of an object-oriented system with the query and access abilities of a relational database system.

Teng teaches dependent claim 6 by the following:

“wherein the application of the at least one relational constraint to the reorganized table includes applying a trigger procedure to the reorganized table” at col. 2 lines 22-26.

The accesses are queued on the shadow copy, or the reorganized copy. Once the table is made available, the accesses are allowed.

Lakhamraju teaches dependent claim 7 by the following:

“wherein the application of the at least one relational constraint to the reorganized table includes applying a trigger lock to another table” at col. 4 lines 40-47. The exact parents of the object stored in the table are locked and updated. As taught above, the objects can be spread across several tables.

Response to Arguments

Applicant's arguments filed on 5/27/03 have been fully considered but they are not persuasive.

Applicants argued that Pereira ('640) fails to teach continuous client access to the data during table or object reorganization.

In response, the examiner respectfully disagrees. Pereira teaches that "For the duration of the unload and load processes, the source table is available to users for normal OLTP activity" column 10, lines 49-50.

Applicants argued that Pereira alone, or combination with Teng ('048 B1) fails to teach no locks are applied to the reorganized table.

In response, the examiner respectfully disagrees. Teng teaches that "the reorganization routine updates the shadow copy (reorganization table) with the logged entries", and "access requests to the data database objects involved in the reorganization are queued" (col. 2, lines 13-30). It is clear that the reorganization table is locked because there is no accesses allow to the shadow copy. Therefore, the access requests are queued. From the above passages, Teng does teach the claim language that locks are applied to the reorganization table.

As to claim 15, Applicants argued that Bannon ('279) does not concerned with data file, table, or object reorganization. Bannon incorporates normal prior art locks on various objects. The normal prior art locks do not appear to the applicants to have the claimed ability to block certain data modification operations while allowing multiple structural operations to be applied to an object. Pereira (640) apply no locks to the reorganized table.

In response, the examiner respectfully disagrees. First of all, Bannon discloses a DBMS system. Requests can be made to retrieve or **manipulate** (col. 2, lines 41-42). Manipulating the data, it would require rebuilding of the database (reorganization table) if they are changed (col. 5, lines 29-30). As the result, Bannon's system has the ability

to block certain data modification operations while allowing multiple structural operations to be applied to an object. Moreover, the claim language is rejected under 35 U.S.C 103. Even if Bannon does not teach the claimed invention as mentioned above, Pereira ('640), combination still meet the applicants claimed language.

Examiner has carefully review the independent claim 15, but there is no claimed limitation "lock to the reorganized table" as applicants' argument.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

If a reference indicated as being mailed on PTO-FORM 892 has not been enclosed in this action, please contact Lisa Craney whose phone number is (703) 305-9601 for faster service.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEBBIE M LE whose telephone number is 703-308-6409. The examiner can normally be reached on 8:30-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN BREENE can be reached on 703-305-9790. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



DEBBIE M LE
Examiner
Art Unit 2177

Debbie Le
August 6, 2003



BETA ROBINSON
ARY EXAMINER